

Applicant has amended claim 7 to more clearly state that movement of the control in the first direction causes the magnetic field generating apparatus to change the magnetic field to move the distal end of the endoscope in a first plane indicated in a first direction relative to the indicia, and that movement of the controller in the second direction causes the magnetic field generating apparatus to change the magnetic field to move the distal end of the endoscope in a second plane, perpendicular to the first plane, indicated in a second direction relative to the indication and perpendicular to the first indicia.

Applicants respectfully request reconsideration of the rejection of claims 11 and 12 under 35 U.S.C. §112. Applicants have amended claims 11 and 12 to remove the basis for rejection. Applicants respectfully request reconsideration of the rejection of claims 13 and 14 under 35 U.S.C. §112. Applicants have amended “magnet body” in these claims “magnetic body”. Applicants respectfully request reconsideration of the rejection of claim 16. Applicant has amended claim 16, similar to the amendments to claim 7. In view of the foregoing, applicants respectfully submit that the rejection of claims 11, 12, 13, 14, and 16 should be withdrawn.

Applicants respectfully request reconsideration of the rejection of claims 1-4, 6-9, 11-17 under 35 U.S.C. §102(b), as being anticipated by Ueda et al., U.S. Patent No. 5,681,260. Applicants have cancelled claim 2 without prejudice. Claim 2 (and claims 3-4, 6-9, and 11-14 which depend therefrom) requires that the controller control the magnetic field generating apparatus “to apply a magnetic field of a specific direction to change the orientation of the magnetic body and thus the orientation of the distal end of the endoscope”. Ueda et al. does not teach a control that operates a magnet to applying an aligning field to align the distal end of an endoscope in a particular direction. Instead, Ueda et al. relies upon a magnetic gradient or pulling force to pull a magnet in a particular direction. Lacking any teaching of the required controller, Ueda et al. cannot anticipate, or make obvious the claimed invention. For at least this reason, the rejection of claims 2, 3, 6-9, and 11-14, should be withdrawn.

Similarly, claim 4 requires that the controller controls the magnetic field generating apparatus to apply a magnetic field and a magnetic gradient “to apply a magnetic field of a specific direction to change the orientation of the magnetic body and to apply a magnetic gradient to move the magnetic body and thus the orientation and location of the distal end of the endoscope.” Ueda et al. does not teach a control that operates a magnet to applying an aligning field to align the distal end of an endoscope in a particular direction. Instead, Ueda et al. relies upon a magnetic gradient or pulling force to pull a magnet in a particular direction. Lacking any teaching of the required controller, Ueda et al. cannot anticipate, or make obvious the claimed invention. For at least this reason, the rejection of claims 4, should be withdrawn.

Claim 15 requires a controller for controlling the magnetic field generating apparatus to selectively apply a magnetic field to change the position of the magnetic body and thus the position of the distal end of the endoscope, the controller operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to change the magnetic field direction to change the orientation of the distal end of the endoscope in the vertical direction as displayed on the display, and wherein the movement of the controller in the other of the mutually perpendicular direction causes the magnetic field generating apparatus to change the magnetic field direction to change the orientation of the distal end of the endoscope in the horizontal direction as displayed on the display. Ueda et al. does not teach a control that operates a magnet to applying an aligning field to align the distal end of an endoscope in a particular direction. Instead, Ueda et al. relies upon a magnetic gradient or pulling force to pull a magnet in a particular direction. Lacking any teaching of the required controller, Ueda et al. cannot anticipate, or make obvious the claimed invention. For at least this reason, the rejection of claim 15, should be withdrawn.

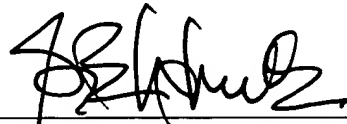
Claim 16 requires a controller for controlling the application of a magnetic field to the distal end of the endoscope, the controller being operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to apply a magnetic field in a direction to change the orientation of the distal end of the endoscope in a first plane corresponding to a first direction relative to the orientation indicia on the display, and wherein the movement of the controller in the other of the mutually perpendicular directions causes the magnetic field generating apparatus to change the magnetic field in a direction to change the orientation of the distal end of the endoscope in a second plane, perpendicular to the first plane, corresponding to a second direction relative to the orientation indicia on the display, perpendicular to the first direction. Ueda et al. does not teach a control that operates a magnet to applying an aligning field to align the distal end of an endoscope in a particular direction. Instead, Ueda et al. relies upon a magnetic gradient or pulling force to pull a magnet in a particular direction. Lacking any teaching of the required controller, Ueda et al. cannot anticipate, or make obvious the claimed invention. For at least this reason, the rejection of claim 16, should be withdrawn.

Claim 17 requires a controller for controlling the application of a magnetic field to the distal end of the endoscope, the controller being operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to change the magnetic field in a direction to change the

orientation of the distal end of the endoscope in the vertical direction as displayed on the display, and wherein the movement of the controller in the other of the mutual perpendicular directions causes the magnetic field generating apparatus to change the magnetic field in a direction to change the orientation of the distal end of the endoscope in the horizontal direction as displayed on the display. Ueda et al. does not teach a control that operates a magnet to applying an aligning field to align the distal end of an endoscope in a particular direction. Instead, Ueda et al. relies upon a magnetic gradient or pulling force to pull a magnet in a particular direction. Lacking any teaching of the required controller, Ueda et al. cannot anticipate, or make obvious the claimed invention. For at least this reason, the rejection of claim 16, should be withdrawn.

Applicant respectfully requests reconsideration of rejection of claim 10 under 35 U.S.C. §103 over of Ueda et al, in view of Kononckx, U.S. Patent No. 5,899,851. Claim 10 depends from claim 9 shown above to be allowable, and is allowable for this reason. Applicant respectfully submits that upon entry of the above amendments, and consideration of the above Remarks that claims 2-17, being all of the claims pending in the application, will be in condition for allowance. If it would advance the prosecution of this application the Examiner is invited to telephone the undersigned.

Respectfully submitted,



---

Bryan K. Wheelock, Reg. No. 31,441  
Harness, Dickey & Pierce, P.L.C.  
7700 Bonhomme, Suite 400  
St. Louis, Missouri 63105  
314-726-7500

## ATTACHMENT SHOWING CHANGES TO CLAIMS

Cancel claim 1 without prejudice.

Rewrite claim 2 as follows:

2. (Amended) A magnetically navigable endoscope system comprising:  
an endoscope having a proximal end and a distal end, the distal end having a magnetic body;  
an imaging device which transmits an image, associated with the distal end;  
a display component for displaying the image;  
a magnetic field generating apparatus for generating a magnetic field to move the magnetic body and thus the distal end of the endoscope;  
a controller coordinated with the display for controlling the magnetic field generating apparatus to apply a magnetic field to change the position of the magnetic body and thus the position of the distal end of the endoscope, [The magnetically navigable endoscope system according to claim 1 wherein] the controller [controls] controlling the magnetic field generating apparatus to apply a magnetic field of a specific direction to change the orientation of the magnetic body and thus the orientation of the distal end of the endoscope.

Rewrite claim 3 as follows:

3. (Amended) The magnetically navigable endoscope system according to claim [1] 2 wherein the controller controls the magnetic field generating apparatus to apply a magnetic gradient to move the magnetic body and thus the location of the distal end of the endoscope.

Rewrite claim 4 as follows:

4. (Amended) A magnetically navigable endoscope system comprising:  
an endoscope having a proximal end and a distal end, the distal end having a magnetic body;  
an imaging device which transmits an image, associated with the distal end;  
a display component for displaying the image;  
a magnetic field generating apparatus for generating a magnetic field to move the magnetic body and thus the distal end of the endoscope;  
a controller coordinated with the display for controlling the magnetic field generating apparatus to apply a magnetic field to change the position of the magnetic body and thus the position of the distal end of the endoscope, [The magnetically navigable endoscope system according to claim 1

wherein] the controller [controls] controlling the magnetic field generating apparatus to apply a magnetic field and a magnetic gradient to apply a magnetic field of a specific direction to change the orientation of the magnetic body and to apply a magnetic gradient to move the magnetic body and thus the orientation and location of the distal end of the endoscope.

Rewrite claim 5 as follows:

5. (Amended) The magnetically navigable endoscope system according to claim [1] 2 wherein the controller is on the endoscope, adjacent the proximal end.

Rewrite claim 6 as follows:

6. (Amended) The magnetically navigable endoscope system according to claim [1] 2 wherein the controller is operable in at least two mutually perpendicular directions, movement in which causes the magnetic field generating apparatus to change the magnetic field to move the distal end of the endoscope in two mutually perpendicular directions.

Rewrite claim 7 as follows:

7. (Amended) The magnetically navigable endoscope system according to claim [1] 6 wherein the display includes indicia indicating an orientation of the displayed image, and wherein the controller is operable in at least two mutually perpendicular directions, and movement in the first direction causes the magnetic field generating apparatus to change the magnetic field to move the distal end of the endoscope in a first plane indicated in a first direction relative to the indicia, and movement in the second direction causes the magnetic field generating apparatus to change the magnetic field to move the distal end of the endoscope in a second plane, perpendicular to the first [place] plane, indicated in a second direction relative to the indication and perpendicular to the first indicia.

Rewrite claim 8 as follows:

8. (Amended) The magnetically navigable endoscope system according to claim 7 wherein the indicia include at least one marker aligned with the first direction and at least one marker aligned with the second direction [first plane is aligned with the indicia].

Rewrite claim 11:

11. (Amended) The [magnet assembly] magnetically navigable endoscope system according to claim [1] 2 wherein [the endoscope includes a magnet channel, and wherein there is at least one magnet body disposed in the magnet channel adjacent the distal end,] there is a magnet channel in the distal end of the endoscope, containing the magnetic body.

Rewrite claim 12 as follows:

12. (Amended) The [magnet assembly] magnetically navigable endoscope system according to claim [1] 2 wherein [there are a plurality of magnet bodies in the distal end portion of the endoscope] the distal end of the endoscope has a plurality of magnetic bodies.

Rewrite claim 13 as follows:

13. (Amended) The magnet assembly according to claim [1] 2 wherein the [magnet] magnetic body comprises a permanent magnetic material.

Rewrite claim 14 as follows:

14. (Amended) The magnet assembly according to claim [1] 2 wherein the [magnet] magnetic comprises a permeable magnetic material.

Rewrite claim 15 as follows:

15. (Amended) A magnetically navigable endoscope system comprising:

- an endoscope having a proximal end and a distal end, the distal end having a magnetic body;
- a component which transmits an image, associated with the distal end;
- a two-dimensional display for displaying the image from the image-transmitting component, the display having a vertical and horizontal direction;
- a magnetic field generating apparatus for generating a magnetic field to orient the magnetic body and thus the distal end of the endoscope;
- a controller for controlling the magnetic field generating apparatus to selectively [apply to] apply a magnetic field to change the position of the magnetic body and thus the position of the distal end of the endoscope, the controller operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to change the magnetic field direction to change the orientation of [to move] the distal end of the endoscope in the vertical direction as displayed on the display, and wherein the movement of the controller in the other of the mutually

perpendicular direction causes the magnetic field generating apparatus to change the magnetic field direction to change the orientation of [to move] the distal end of the endoscope in the horizontal direction as displayed on the display.

Rewrite claim 16 as follows:

16. (Amended) A method of magnetically navigating an endoscope, the method comprising

displaying an image from the distal end of the endoscope on a display, the display including an orientation indicia; and

operating a controller to control the application of a magnetic field to the distal end of the endoscope, the controller being operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to apply a magnetic field direction to change the orientation of [to move] the distal end of the endoscope in a first plane corresponding to a first direction relative to the orientation indicia on the display, and wherein the movement of the controller in the other of the mutually perpendicular directions causes the magnetic field generating apparatus to change the magnetic field direction to change the orientation of [to move] the distal end of the endoscope in a second plane, perpendicular to the first plane, corresponding to a second direction relative to the orientation indicia on the display, perpendicular to the first direction.

Rewrite claim 17 as follows:

17. (Amended) A method of magnetically navigating an endoscope, the method comprising:

displaying an image from the distal end of the endoscope on a display;

operating a controller to control the application of a magnetic field to the distal end of the endoscope, the controller being operable in at least two mutually perpendicular directions, movement of the controller in one of the mutually perpendicular directions causing the magnetic field generating apparatus to change the magnetic field direction to change the orientation of [to move] the distal end of the endoscope in the vertical direction as displayed on the display, and wherein the movement of the controller in the other of the mutual perpendicular directions causes the magnetic field generating apparatus to change the magnetic field direction to change the orientation of [to move] the distal end of the endoscope in the horizontal direction as displayed on the display.